

REMARKS

Claims 26, 28-30, 32-46, and 48-52 are pending herein.

1. Claims 26, 28-30, and 32-50 were rejected under 35 U.S.C. 112, first paragraph. Claims 26 and 48 were previously amended in Applicants' submission filed 7/30/2007 removing the phrase "gas channels being open and unfilled." Accordingly, withdrawal of the 35 USC 112, first paragraph rejection is respectfully requested.

2. Claims 49 and 50 were rejected under 35 U.S.C 112 second paragraph. Claims 49 and 50 have been amended. Accordingly, withdrawal of the 35 USC 112, second paragraph rejection is respectfully requested.

3. Claims 26, 28-30, and 32-50 were rejected under 35 U.S.C. 103(a) as being unpatentable over Iijima et al (2001/0006042) in view of Vaidya et al (US 5076203). The rejection is respectfully traversed for the following reasons.

The claimed invention is drawn to a process for continuous deposition of a coating on an HTS tape. The claimed invention particularly calls for gas channels extending through the substrate block and being hollow and open along the entire length of the gas channels. Additionally, the claimed invention calls for the gas channels to terminate as openings spaced apart from each other along the first surface. Applicants have shown that injecting gas through the gas channels and directly onto the substrate, instead of into the deposition chamber from another location, reduces the average texture of the buffer layer at least about 3 degrees.

The PTO continues to rely upon Iijima et al. to allegedly teach the main features of the claimed invention. However, Iijima et al. do not teach or suggest injecting gas through gas channels of the substrate block. The PTO has apparently relied upon Vaidya et al. to allegedly overcome this deficiency.

Vaidya et al. fail to disclose or remotely suggest gas channels that are hollow and open along an entirety of the length. Rather, Vaidya et al. disclose supplying gas through a porous block. While the porous block allows the gas to flow from the gas channels to

the surface of the substrate block, the open channels that supply the gas to the porous block fail to extend to the surface of the substrate block over which the substrate translates. While, in FIG. 9, the area between metal bars 65 including the gas channel 63 and the porous material 61 might possibly be viewed as a “gas channel” extending to the surface, the combination of 63 and 61 clearly fail to satisfy the requirement of gas channels being hollow and open along the entire length, which extends to the surface, as the porous material fills a portion of the “gas channel” between metal bars 65. Additionally, while Vaidya et al. disclose liquid cooling pipes embedded in the porous block of FIG. 8, the gas flows through the interconnected porosity of the porous block, rather than gas channels extending to the surface of the substrate block. Further, combining the metal bars 65 of FIG. 9 with FIG. 8 ignores the purpose of metal bars to conduct heat from the substrate to water cooling chamber 66 of FIG. 9. As such, Vaidya et al. do not disclose or remotely suggest the combination of gas channels being hollow and open along the entire length and extending to openings on the surface of the substrate block, and an internal liquid cooling channel located between first and second gas channels.

For at least the forgoing reasons, Applicants respectfully submit that the presently claimed invention would not have been anticipated by Iijima et al. in view of Vaidya et al. Accordingly, withdrawal of the 35 USC 103 rejection over Iijima et al. in view of Vaidya et al. is respectfully requested.

Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims.

Should the Examiner deem that any further action by the Applicants would be desirable for placing this application in even better condition for issue, the Examiner is requested to contact Applicants’ undersigned attorney at the number listed below.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-3797.

Date

2/5/2008

Respectfully submitted,



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